

(Fundamental Counting)

## Multiplication Rule (Pg. 180)

- Different Events
- Total Combinations  $\rightarrow$  multiply all numbers.
- Ex: Pants & Shirts

## Repetition? (Pg. 180)

9 · 9 · 9 · 9 · 9 zip codes

## Permutations (Pg. 182)

$\rightarrow$  order matters

line up  
arrangement  
sequence  
placement

$nPr$   $\leftarrow$  how many you select  
all items

If you select All items you can use Factorial (!)

(Pg. 181)

## Identical objects (Pg. 183)

$n!$   $\leftarrow$  total

$n_1! n_2! n_3! \dots$   $\leftarrow$  all identical items.

## Combinations (Pg. 185)

$\rightarrow$  order does not matter  
smaller than permutation

$nCr$   $\leftarrow$  how many you select  
all items

If you have only 2 parts all identical  
male female  
T/F  
1540's

words